Amendments to the Specification:

Please amend the specification as follows:

Please replace paragraph number [0030], with the following rewritten paragraph:

[0030] Each of the plurality of sensors 12a-12e may be designed to sense one or more parameters. For example, each of the plurality of sensors 12a-12e may be designed to sense a biological or physiological parameter in a patient, such as, for example, blood oxygen saturation, blood pressure, blood temperature, or blood pH. Also, each of the plurality of sensors 12a-12e may be designed to sense a parameter such as an analyte in a patient, such as, for example, glucose, lactate, potassium, pH, sodium, pCO> 2, pO2, SvO2, pvO2, temperature and urea. Accordingly, given the various mechanisms required to sense various parameters, each of the plurality of sensors 12a-12e may be designed as an electrochemical sensor, a potentiometric sensor, a current sensor, a physical quantity sensor, an optical sensor or other type of sensor, dictated by the parameter being measured. In addition, the output of one or more of the plurality of sensors 12a-12e may be a quantifiable value. In other words, a measurement may be made by one or more of the plurality of sensors 12a-12e such that a quantifiable or absolute value is returned by the sensor.

Please replace paragraph number [0031], with the following rewritten paragraph:

[0031] Although the embodiment of the present invention shown in Fig. 1 includes five sensors, embodiments of the present invention may be designed with any number of sensors desired or necessary for a particular application. For example, an embodiment of the present invention shown in reference to the flowchart in Fig. 5 includes, without limitation, three sensors which monitor the lactate level, the blood oxygen saturation level, and the pH level in connection with the particular application of administering therapy for myocardial infarction or angina.

Please replace paragraph number [0040], with the following rewritten paragraph:

[0040] A generalized method for using an implantable, multi-parameter sensor according to an embodiment of the present invention is shown in Fig. 3. According to the embodiment of the invention shown in Fig. 3, an implantable, multi-parameter sensor is positioned in a patient at step 40. The implantable, multi-parameter sensor may be inserted into the vasculature. According to other embodiments of the present invention, the implantable, multi-parameter sensor may be positioned in the peritoneal or may be positioned subcutaneously, or, for example, may be positioned in ventricular spaces, neurological spaces, such as the spine or brain, for example, intramuscular, myocardial, or pericardial spaces, and all vascular (venous and arterial) spaces. According to embodiments of the present invention, the implantable, multi-parameter sensor may also be position outside the body, for example, in an extracorporeal membrane oxygenation (ECMO) system.

Please replace paragraph number [0044], with the following rewritten paragraph:

[0044] According to an embodiment of the present invention shown in Fig. 4, an implantable, multi-parameter sensor is positioned in a patient at step 50. The implantable, multi-parameter sensor may be inserted into the vasculature. According to other embodiments of the present invention, the implantable, multi-parameter sensor may be positioned in the peritoneal or may be positioned subcutaneously or, for example, may be positioned in ventricular spaces, neurological spaces, such as the spine or brain, for example, intramuscular, myocardial, or pericardial spaces, and all vascular (venous and arterial) spaces. According to embodiments of the present invention, the implantable, multi-parameter sensor may also be position outside the body, for example, in an ECMO system.

Please replace paragraph number [0049], with the following rewritten paragraph:

[0049] According to an embodiment of the present invention shown in Fig. 5, an implantable, multi-parameter sensor is positioned in a patient at step 60. The implantable, multi-parameter sensor may be inserted into the vasculature. According to other embodiments of the

present invention, the implantable, multi-parameter sensor may be positioned in the peritoneal or may be positioned subcutaneously.

Please replace paragraph number [0052], with the following rewritten paragraph:

[0052] A method for using an implantable, multi-parameter sensor in connection with the function and placement of an implantable cardiovascular defibrillator (ICD) according to an embodiment of the present invention is shown in Fig. 6. According to an embodiment of the present invention shown in Fig. 6, an implantable, multi-parameter sensor is positioned in a patient at step 70. The implantable, multi-parameter sensor may be inserted into the vasculature. According to other embodiments of the present invention, the implantable, multi-parameter sensor may be positioned in the peritoneal or may be positioned subcutaneously.

Please replace paragraph number [0057], with the following rewritten paragraph:

[0057] According to an embodiment of the present invention shown in Fig. 7, an implantable, multi-parameter sensor is positioned in a patient at step 80. The implantable, multi-parameter sensor may be inserted into the vasculature. According to other embodiments of the present invention, the implantable, multi-parameter sensor may be positioned in the peritoneal or may be positioned subcutaneously.

Please replace paragraph number [0059], with the following rewritten paragraph:

[0059] At step 84, a risk may be assessed or a therapy administered for sepsis or septic shock. By continuously monitoring blood lactate, venous O2, potassium and central venous pressure, a physician or other medical attendant may administer to the patient responsive treatment based on the monitored parameters and prevent the patient from becoming septic.

Please replace paragraph number [0062], with the following rewritten paragraph:

[0062] According to an embodiment of the present invention shown in Fig. 8, an implantable, multi-parameter sensor is positioned in a patient at step 90. The implantable, multi-

parameter sensor may be inserted into the vasculature. According to other embodiments of the present invention, the implantable, multi-parameter sensor may be positioned in the peritoneal or may be positioned subcutaneously, or, for example, may be positioned in ventricular spaces, neurological spaces, such as the spine or brain, for example, intramuscular, myocardial, or pericardial spaces, and all vascular (venous and arterial) spaces. According to embodiments of the present invention, the implantable, multi-parameter sensor may also be position outside the body, for example, in an ECMO system.

Please replace paragraph number [0067], with the following rewritten paragraph:

[0067] A block diagram of a multi-parameter sensing system 140 according to another embodiment of present the present invention may be seen in Fig. 11. In Fig. 11, an apparatus for sensing multiple parameters 142 is implanted in a patient 156. A catheter portion 144 of the apparatus for sensing multiple parameters 142 exits the patient 156 at an incision 146 and extends out of the patient 156. In the embodiment of the invention shown in Fig. 11, one of the sensors in the apparatus for sensing multiple parameters 142 includes an internal electrode which cooperates with an external electrode 154. A first interconnect 148, which includes a signal from the internal electrode on one of the sensors in the apparatus for sensing multiple parameters 142, and a second interconnect 150 are connected to a computer or other controller/analyzer 152. The computer or other controller/analyzer 152 is able to sense a change of impedance between the internal electrode on one of the sensors in the apparatus for sensing multiple parameters 142 and the external electrode 154, corresponding to a change in the chemical, biological or physiological make-up of the area between the two electrodes, i.e., the patient.

Please replace paragraph number [0071], with the following rewritten paragraph:

[0071] Embodiments of the present invention may be used in vascular or non-vascular applications. For example, sensors according to embodiments of the present invention may be inserted into the vasculature. According to other embodiments of the present invention, sensors may be positioned in the peritoneal or may be positioned subcutaneously or, for example, may be

positioned in ventricular spaces, neurological spaces, such as the spine or brain, for example, intramuscular, myocardial, or pericardial spaces, and all vascular (venous and arterial) spaces. According to embodiments of the present invention, the implantable, multi-parameter sensor may also be position outside the body, for example, in an ECMO system. Embodiments of the present invention may also be used for intracranial or defibrillation applications.